

REMARKS/ARGUMENTS

Applicants amended the Title to overcome the Examiner's objection

The Examiner rejected claim 3 as indefinite (35 U.S.C. §112, par. 2) for lacking antecedent basis. Applicants amended claims 3 and 25 to depend from claims 2 and 24, respectively, to overcome this rejection and provide antecedent basis for the noted elements.

1. Claims 1, 4-23, and 26-36 are Patentable Over the Cited Art

The Examiner rejected claims 1, 4-23, and 26-36 as anticipated (35 U.S.C. §102(e)) by Brown (U.S. Patent No. 6,385,686). Applicants traverse with respect to the amended claims.

Amended independent claims 1, 15, and 23 concern processing operations in a system including a bus, a target device and devices capable of accessing the target device over the bus, and require that the target device performs: receiving a transaction request from one of the devices over the bus; determining whether a delayed read request is pending after receiving the transaction request; issuing a command to disconnect the device initiating the transaction request from the bus in response to determining that the delayed read request is pending; and allowing the device initiating the transaction request to reconnect to the bus and complete the transaction request after the delayed read request is completed.

Applicants amended these claims to clarify that the command to disconnect the device initiating the transaction request from the bus is issued in response to determining that the delayed read request is pending.

The Examiner cited col. 4, line 64 through col. 5, line 15 of Brown as disclosing the claim requirement of determining whether a delayed read request is pending after receiving the transaction request. (Office Action, pg. 3) Applicants traverse.

The cited cols. 4-5 discuss operations for a delayed read request. If the request is not a delayed read, then conventional processing mechanisms are used. If the request is a delayed read request for data previously requested, then a determination is made if the read data returned. If not, a retry request is issued. If the read data has returned, the read data is returned to a host slave.

The cited cols. 4-5 discuss operations for a delayed read request. Nowhere do the cited cols. 4-5 anywhere disclose the claim requirement of determining whether a delayed read request is pending after receiving a transaction request from one device. Instead, the cited cols. 4-5 are

concerned with processing a delayed read request, not a transaction received while a delayed read request is pending.

The Examiner cited col. 5, lines 7-15 of Brown with respect to the issuing limitation. (Office Action, pg. 3). Applicants submit that the cited col. 5 does not disclose the amended form of this limitation, which requires issuing a command to disconnect the device initiating the transaction request from the bus in response to determining that the delayed read request is pending.

The cited col. 5 mentions that if the request is a delayed read request for data previously requested, then a determination is made if the read data from the previous request has returned. If not, a retry request is issued. If the read data has returned, the read data is returned to a host slave.

Nowhere does the cited col. 5 anywhere disclose the claim requirement of issuing a command to disconnect a device initiating a transaction if there is a delayed read request pending. Instead, the cited col. 5 discusses how to process and return read data to a delayed read request. The cited Brown does not disclose or concern the claim requirements of issuing a command to disconnect a device initiating a transaction if there is a delayed read request pending.

The Examiner cited col. 4, line 64 through col. 5, line 29 of Brown as disclosing the claim requirement of allowing the device initiating the transaction request to reconnect to the bus and complete the transaction request after the delayed read request is completed. (Office Action, pg. 3) Applicants traverse.

The cited cols. 4-5 discuss operations for a delayed read request. If the request is not a delayed read, then conventional processing mechanisms are used. If the request is a delayed read request for data previously requested, then a determination is made if the read data has returned. If not, a retry request is issued. If the read data has returned, the read data is returned to a host slave. The cited col. 5 further mentions that if the read data is not returned and if there are no buffers available a retry request is issued. If there is a buffer available, it is allocated and a read request is issued.

The cited cols. 4-5 discuss how to process a delayed read request and allocate buffers for the requested read data. Nowhere does the cited cols. 4-5 anywhere disclose allowing a device initiating a transaction request to reconnect to the bus and complete a transaction after the

delayed read request has completed. Instead, the cited cols. 4-5 discuss how to process a delayed read request if the read data is or is not available. The cited cols. 4-5 do not disclose how a transaction may be allowed to reconnect after the transaction is disconnected due to a pending delayed read request.

Accordingly, amended claims 1, 15, and 23 are patentable over the cited art because the cited Brown does not disclose all the claim requirements.

Claims 4-14, 16-22, and 26-36 are patentable over the cited art because they depend from one of claims 1, 15, and 23. The below discussed dependent claims provide additional grounds of patentability over the cited art.

Claims 5, 17, and 27 depend from claims 1, 15, and 23 and further require determining whether requested data for the delayed read request is available to return, wherein the command to disconnect the device initiating the transaction request is issued after the requested data for the delayed read request is determined to be available to return. The Examiner cited col. 5, lines 4-15 of Brown as disclosing the requirements of these claims. (Office Action, pgs. 3-4) Applicants traverse.

The cited col. 5 mentions that if the request is a delayed read request for data previously requested, then a determination is made if the read data has returned. If not, a retry request is issued. If the read data has returned, the read data is returned to a host slave.

Although the cited col. 5 discusses returning read data to a delayed read request, nowhere does the cited col. 5 anywhere disclose that a command to disconnect a transaction request received while a delayed read request is pending is issued after the requested data for the pending delayed read request is available. The cited col. 5 concerns how to return data to a delayed read request, not when to issue a command to disconnect a transaction received while a delayed read request is pending as claimed.

Accordingly, claims 5, 17, and 27 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Brown.

Claims 6, 18, and 28 depends from claims 5, 17, and 27 and further require allowing the transaction request to proceed if the delayed read request is pending and if the requested data for the delayed read request is not available to return. The Examiner cited col. 5, lines 4-15 of Brown as disclosing the requirements of these claims. (Office Action, pgs. 4) Applicants traverse.

The cited col. 5 mentions that if the request is a delayed read request for data previously requested, then a determination is made if the read data has returned. If not, a retry request is issued. If the read data has returned, the read data is returned to a host slave.

Although the cited col. 5 discusses returning read data to a delayed read request, nowhere does the cited col. 5 anywhere disclose the claim requirement of allowing the transaction request to proceed if the delayed read request is pending and if the requested data for the delayed read request is not available to return. The cited col. 5 does not disclose how to allow a transaction request to proceed while a delayed read request is pending as claimed.

Accordingly, claims 6, 18, and 28 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Brown.

Claims 7, 19, and 29 depend from claims 6, 18, and 28 and further require after allowing the transaction request to proceed, determining that all the requested data is available to return, wherein the command to disconnect is issued after determining that all the requested data is available to return after allowing the transaction request to proceed. The Examiner cited col. 4, lines 4-29 of Brown as disclosing the additional requirements of these claims. (Office Action, pg. 4) Applicants traverse.

The cited col. 4 discusses how to signal a retry if the pending request will take a significant amount of time. When a write request is received, a host slave issues the request to a peripheral master. The peripheral master accepting the write request causes the host slave to wait for the write request to complete. If the peripheral master completes the write request or if the write returned from a previous retried write, the host slave finishes the write request. If the peripheral master forwards a retry, the host slave sends a back-off command to cause all pending transactions to be cleared.

The cited col. 4 discusses how a write request is processed. However, nowhere does the cited col. 4 anywhere disclose that a command to disconnect is issued after all the requested data is available to return to the pending delayed read request after allowing the transaction request to proceed. Instead, the cited col. 4 discusses how to process a write request, not when to issue a command to disconnect a transaction based on whether the requested data for a pending delayed read request is available to return after the transaction request is allowed to proceed as claimed.

Accordingly, claims 7, 19, and 29 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Brown.

Claims 11, 22, and 33 depend from claims 1, 15, and 23 and further require determining whether a variable indicates a first state or a second state, wherein the state indicated by the variable determines when the target device issues the command to disconnect the device initiating the transaction request while the delayed read request is pending. The Examiner cited col. 4, lines 12-59 as disclosing the additional requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 4 discusses how to signal a retry if the pending request will take a significant amount of time. When a write request is received, a host slave issues the request to a peripheral master. The peripheral master accepting the write request causes the host slave to wait for the write request to complete. If the peripheral master completes the write request or if the write returned from a previous retried write, the host slave finishes the write request. If the peripheral master forwards a retry, the host slave sends a back-off command to cause all pending transactions to be cleared. The cited col. 4 further discusses that if a read request is received, the host slave issues the read request to the peripheral master. The host slave waits for the read request to complete. If the peripheral master completes the read request or if the read has returned from a previous retried read, then the host slave finishes the read request on the host bus.

The cited col. 4 discusses how a host slave and peripheral master process read and write requests. Nowhere does the cited col. 4 anywhere disclose or mention the claim requirement of a variable that determines or controls when the target device issues the command to disconnect the device initiating the transaction request while the delayed read request is pending. Instead, the cited col. 4 discusses how a peripheral master and a host process read and write request and does not disclose any variable that determines when a command to disconnect is issued for a transaction request received while a delayed read request is pending.

Accordingly, claims 11, 22, and 33 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Brown.

Claims 12 and 34 depend from claims 11 and 33 and provide further details how the variable of claims 11 and 33 is used. These claims require issuing the command to disconnect the device initiating the transaction request when the device that initiated the delayed read request attempts to reconnect to the target device if the variable indicates the first state and

issuing the command to disconnect the device initiating the transaction request after all the requested data for the delayed read request is determined to be available to return if the variable indicates the second state.

The Examiner cited the above discussed col. 4 as disclosing the additional requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 4 discusses the interaction of a peripheral master and a host slave to process read and write requests. Nowhere does the cited col. 4 disclose or mentions any command to disconnect a transaction request received while a delayed read request is pending based on the value of the variable. Nowhere is there any disclosure that the command to disconnect the device initiating the transaction request is issued when the device that initiated the delayed read request attempts to reconnect to the target device if the variable indicates the first state and that the command to disconnect the device initiating the transaction request is issued after all the requested data for the delayed read request is determined to be available to return if the variable indicates the second state. Nowhere does the cited col. 4 anywhere disclose these type of operations to issue the disconnect command based on the state of a variable.

2. Claims 2, 3, 24, and 25 are Patentable Over the Cited Art

The Examiner rejected claims 2, 3, 24, and 25 as obvious (35 U.S.C. §103) over Brown in view of Melo. Applicants traverse.

These claims are patentable over the cited art because they depend from base claims 1 and 23, which are patentable over the cited art for the reasons discussed above and because the combination of the additional requirements of these claims with the base claims provides further grounds of distinction.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-36 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

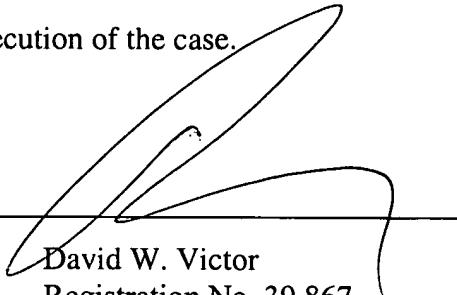
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The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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